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Sanborn, Head & Associates

Consulting Engineers & Scientists

ADDITIONAL ENVIRONMENTAL SERVICES GROUNDWATER/SURFACE WATER SAMPLING AND ANALYSIS

**Beede Waste Oil/Cash Energy Site
Plaistow, New Hampshire**

Prepared for
**New Hampshire Department
of Environmental Services**

Prepared by
Sanborn, Head & Associates, Inc.

File 1143.3
September 1996

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Sanborn, Head & Associates

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September 17, 1996

File No. 1143.3

Robert P. Minicucci, II, P.E.
Project Manager
Groundwater Protection Bureau
Water Supply and Pollution Control Division
New Hampshire Department of Environmental Services
P.O. Box 95, 6 Hazen Drive
Concord, NH 03302-0095

Re: Additional Environmental Services
Groundwater/Surface Water Sampling and Analysis
Beede Waste Oil/Cash Energy Site
Plaistow, New Hampshire

Dear Mr. Minicucci:

This report presents the results of water quality monitoring activities completed by Sanborn, Head & Associates, Inc. (SHA) at the Beede Waste Oil/Cash Energy site (Site) in Plaistow, New Hampshire, on behalf of the New Hampshire Department of Environmental Services (NHDES). These activities were completed pursuant to the workplan entitled "Cost Proposal And Workplan For Additional Environmental Services" prepared by SHA and dated July 15, 1996, and Amendment No. 3 of our Agreement with the NHDES executed by the Governor and Council on July 31, 1996. This report summarizes the activities and findings of the first of three proposed rounds of water quality sampling and analysis under the above-referenced contract.

WORK COMPLETED

SHA completed the sampling of groundwater and surface water between August 12 and 14, 1996. Groundwater levels were gauged in 41 wells, consisting of 38 on-site monitoring wells (including the two wells installed by Roy F. Weston, Inc. [RFW-1 and RFW-2]), the on-site dug well, and two abandoned off-site private supply wells (Howard Manor Condominium and Howard Residence overburden wells). Groundwater samples were collected from 26 sampling locations including 23

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on-site monitoring wells, the on-site dug well, and the Howard Manor Condominium and Howard Residence overburden wells. Pursuant to the workplan, no samples were collected from the nine on-site monitoring wells observed to contain product thicknesses exceeding 0.01 feet or from the six monitoring wells historically exhibiting no volatile organic compounds (VOCs) and considered upgradient of suspected source areas (SH-4D, AE-10, AE-20, AE-21, AE-22, MW-4). Groundwater samples were submitted to Eastern Analytical Inc. (EAI) of Concord, New Hampshire for VOC analysis using EPA Method 8260.

Surface water levels were recorded at three established sampling locations along Kelley Brook (SW-5, SW-7, and SW-8) and at one location along an unnamed tributary which discharges into Kelley Brook (SW-6). Due to the absence of the reference (grade) stake at location SW-1, and the relatively low surface water elevations at SW-2, SW-3, and SW-4, surface water elevations were not measured at these established sampling locations. Surface water samples were collected at or near six established sampling locations (SW-1, SW-3, SW-4, SW-5, SW-7, and SW-8) along Kelley Brook and submitted to EAI for VOC analysis using EPA Method 8260. A site plan is provided as Figure 1. Groundwater and surface water collection, sample handling and preservation, field screening for pH and specific conductance, and quality assurance/quality control procedures were completed in general accordance with Section 3.5.2 of the Project Operations Plan prepared by SHA and dated May 1995.

FINDINGS

Groundwater/Product Levels

Groundwater levels observed in August 1996 were compared to those observed in June and December 1995, and April 1996. Groundwater levels were observed to be on average similar to the levels recorded during the June 1995 monitoring round, and lower than those recorded in December 1995 and April 1996. The average difference in groundwater levels between June 1995 and August 1996 is less than approximately 0.1 feet, with a standard deviation of approximately 0.2 feet. The groundwater levels recorded during the August 1996 monitoring round are on average approximately 0.3 and 1.1 feet lower than those observed in December 1995 and April 1996, respectively. Based on groundwater levels recorded for the four monitoring rounds, a seasonal trend in observed groundwater levels is evident with lower water levels in the summer months and higher water levels in the winter and early spring.

Compared to June 1995, surface water levels are higher by approximately 0.4 feet with a standard deviation of approximately 0.4 feet. Compared to April 1996, surface water levels are lower by approximately 0.2 feet with a standard deviation of approximately 0.3 feet. Surface water levels were

not recorded in December 1995 due to the presence of ice along the majority of Kelley Brook. Groundwater and surface water elevation data are summarized in Tables 1 and 2, respectively, and on the field forms in Appendix A.

Based on the relatively small and typically uniform difference between groundwater levels recorded in June 1995 and August 1996, the current groundwater flow directions for the site are expected to be generally similar to those interpreted for the June 1995 groundwater level data. Based on the June 13, 1995 groundwater elevations, the direction of shallow groundwater flow (i.e., near the water table) beneath Parcel 1 ranges from east to northeast and exhibits a slight convergence toward the center of the site. On Parcel 2, the shallow groundwater flow directions are toward Kelley Brook and hence exhibit a divergence of flow ranging from northeast to north in the north, to southeast in the east and off-site to the south. Horizontal groundwater flow directions interpreted from wells screened in the lower fine sand and till units are generally similar to those at the water table. This condition indicates a relatively high degree of hydraulic communication throughout the overburden aquifer.

Apparent product thicknesses observed in August 1996 range from approximately 0.01 feet in AE-5 to 5.5 feet in SH-5. The average apparent product thickness recorded in the on-site monitoring wells is approximately 0.2 feet less than the average thickness recorded in June 1995, and approximately 0.1 feet and 0.5 feet greater than the average thickness measured in December 1995 and April 1996, respectively.

The observed trend in average apparent product thickness may in part be attributed to seasonal fluctuations in groundwater levels and free oil migration. Higher groundwater levels may result in a decrease in the average apparent product thickness due to an increase in the volume of product trapped as residual oil in pore spaces below the water table. Lower groundwater levels may result in an increase in the volume of free oil as product previously trapped as residual oil below the water table is released. Exceptions include the free oil thicknesses observed in monitoring wells SH-6, AE-5, and AE-16 where measured thicknesses were less than those observed in April 1996.

Water Quality Results

Water quality results for the current sampling round were compared with those for June and December 1995, and April 1996. In general, the observed concentrations, spatial distribution, and types of VOCs detected in groundwater and surface water are consistent with results from the previous water quality monitoring rounds and do not indicate the discovery of additional contamination sources. In the current sampling round several VOCs, namely benzene, 1,2-dichloroethane, cis-1,2-dichloroethene, naphthalene, tetrachloroethene, and trichloroethene, have

been detected at concentrations at or exceeding NHDES ambient groundwater quality standards (AGQS) in groundwater from one or more monitoring wells located at the site. These findings are consistent with the hydrogeologic/contaminant transport model developed by SHA for the site as presented in the September 1995 Site and Waste Characterization Report prepared by SHA. The analytical results from the June and December 1995, and April and August 1996 monitoring rounds are presented in Tables 3 and 4, and discussed below.

Little or no significant change or trend in the concentrations of VOCs was observed in samples collected from 22 monitoring wells and the on-site dug well.

- VOCs have not been detected in groundwater samples collected from three monitoring wells (SH-1D, SH-11, and AE-17S).
- Groundwater samples collected from monitoring wells SH-2S, SH-2D, SH-3D, SH-12, and AE-18D have generally exhibited low to no detected concentrations of VOCs with no apparently significant trend in concentration with time.
- Groundwater samples collected from monitoring wells SH-3S, SH-9, and AE-14, all located along the boundary between Parcels 1 and 2, typically have had no detected non-chlorinated aromatic VOCs (AVOCs) and exhibited relatively consistent levels of chlorinated VOCs (CVOCs).
- Groundwater samples collected from monitoring wells AE-1, AE-2, AE-4, RFW-1 and RFW-2 have generally exhibited no detected concentrations of CVOCs with the exception of 0.002 milligrams per liter (mg/l; equivalent to parts per million) 1,1-dichloroethane detected in groundwater from RFW-2 (August 1996) and 0.002 mg/l cis-1,2-dichloroethene detected in groundwater from AE-4 (April 1996). The detection of cis-1,2-dichloroethene in the sample from AE-4 may be attributed to the use of a lower detection limit in April 1996. Total concentrations of AVOCs have been relatively consistent in groundwater samples collected from AE-1, AE-2, AE-4, and RFW-2 (no AVOCs detected), while those observed in groundwater from RFW-1 decreased from 0.049 mg/l in April 1996 to none detected in August 1996. The concentration of MTBE has consistently decreased with time in groundwater from monitoring wells AE-1, RFW-1, and RFW-2, the only monitoring wells on-site in which it has been detected. These monitoring wells are all located in the vicinity of SWRP No. 1.
- Total AVOC and CVOC concentrations have typically fluctuated in groundwater from monitoring wells SH-4S, AE-11D, AE-12, AE-17D, AE-18S, and the on-site dug well, but do not appear to exhibit a significant trend with time.

- Groundwater samples collected from monitoring well AE-5 (not sampled in December 1995 or April 1996 due to the presence of free oil) exhibited a fluctuation in both total CVOC and AVOC concentrations. Vinyl chloride, detected at a concentration of 0.130 mg/l in June 1995 was not detected in August 1996 (detection limit 0.10 mg/l).

A general increase in AVOC concentrations is observed in groundwater from one monitoring well. Groundwater samples collected from monitoring well SH-8 have exhibited an increase in total AVOCs from none detected in June and December 1995, to 0.110 mg/l in the recent monitoring round. CVOC concentrations have fluctuated and do not appear to exhibit a significant trend during the same time period.

The Howard Manor Condominium (HM) and Howard Residence (HR) overburden wells have been sampled by SHA in the last three sampling rounds. Groundwater samples collected from the Howard Manor Condominium well have generally exhibited low to no detected concentrations of VOCs (one detection of cis-1,2-dichloroethene at 0.002 mg/l in April 1996). Groundwater samples collected from the Howard Residence well have exhibited generally consistent levels of several CVOCs; no AVOCs have been detected.

Surface water samples were collected at six locations along Kelley Brook. Four of the sample locations, SW-1, SW-4, SW-5, and SW-8, have been consistently sampled in each monitoring round since June 1995. Surface water sample locations SW-3 and SW-7 were first sampled in August 1996 and December 1995, respectively. Analytical data are compiled in Table 4 and key observations are presented below.

- VOCs were not detected in the sample from location SW-1, representing no change from previous monitoring rounds.
- Water samples collected from locations SW-3, previously not sampled, and SW-5, heretofore absent of any VOCs, both contained relatively elevated concentrations of MTBE at 0.05 and 0.03 mg/l, respectively. No other VOCs were detected in the water samples from these locations.
- AVOCs were not detected in the water samples from locations SW-7 and SW-8, representing no change from previous monitoring rounds. CVOC concentrations detected in these samples have been relatively low to not detected, and not exhibited an apparently significant trend.

- Water samples collected at location SW-4 have exhibited a fluctuation in both total CVOC and AVOC concentrations. No VOCs were detected at this location in December 1995.

CONCLUSIONS

The August 1996 water quality monitoring round represents the most recent round in an approximately one-year sampling cycle. The findings indicate that, in general there is no significant trend in total VOC concentrations at the majority of the sample locations. With only four or fewer sampling rounds for each location, the cause(s) of the observed variations in VOC concentrations are difficult to discern, and may be related to seasonal factors such as aquifer recharge, groundwater levels, and/or other climatic influences, or potential longer term effects such as changes in contaminant source strength, plume geometry and/or plume migration. Water quality data from future sampling rounds will be useful in identifying potential seasonal and/or long term trends in VOC concentrations in groundwater at the Site. Based on the water quality sampling to date, specific observations include:

- Groundwater and surface water levels have generally exhibited a seasonal trend, being on average lower in the summer months and higher during winter and early spring.
- Average apparent product thicknesses have fluctuated, exhibiting on average slightly greater thicknesses in June 1995 and August 1996. The observed average apparent product thicknesses may in part be attributed to seasonal fluctuations in groundwater levels and migration of free oil over time.
- Three of the monitoring wells sampled which previously yielded groundwater samples with no detected VOCs continued to do so.
- No apparently significant trend in total VOC concentrations has been observed in samples collected from 19 monitoring wells, the on-site dug well, or the Howard Manor Condominium and Howard Resident overburden wells.
- The concentration of MTBE has decreased in groundwater from monitoring wells AE-1, RFW-1 and RFW-2 since June 1995, and was detected for the first time during the August 1996 round from surface water collected at location SW-5. MTBE was also detected in the sample from SW-3 (first time this location was sampled), located upstream of SW-5 and generally downgradient of RFW-1 and RFW-2.

- Future water quality results will facilitate discerning between seasonal fluctuations in water quality conditions and long-term trends in groundwater quality at the site.

Please contact us with any questions or comments you may have regarding this document. We look forward to continuing to work with the NHDES on this project.

Very truly yours,
SANBORN, HEAD & ASSOCIATES, INC.

James Z. Taylor
Project Hydrogeologist

Charles A. Crocetti, Ph.D., P.G.
Principal

Paul M. Sanborn
President/Principal

JZT:jzt/las/kmd

Attachments: Tables 1, 2, 3, and 4
Figure 1
Appendices A and B

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TABLES

TABLE 1
Summary of Groundwater Elevations and Product Thickness Measurements
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Monitoring Well Location	Reference Elevation	Ground Surface Elevation	6/13/95			6/14/95		
			Depth to Water	Product Thickness	Equivalent Potentiometric Elevation	Depth to Water	Product Thickness	Equivalent Potentiometric Elevation
SH - 1D	127.37	125.00	17.62		109.75	17.60		109.77
SH - 2S	123.07	120.40	18.18		104.89			
SH - 2D	122.98	120.40	18.11		104.87			
SH - 3S	131.84	129.70	24.48		107.36			
SH - 3D	132.23	129.80	25.35		106.88			
SH - 4S	131.05	128.50	18.88		112.17			
SH - 4D	131.32	128.60	21.82		109.50			
SH - 5	130.60	130.90	24.99	5.09	110.09			
SH - 6	120.86	118.30	15.48	2.78	107.80			
SH - 7	134.01	131.20	24.07	1.39	111.15			
SH - 8	131.35	131.80	20.72		110.63			
SH - 9	132.83	130.00	24.88		107.95			
SH - 10	128.70	127.10	23.50	2.73	107.52			
SH - 11	121.45	119.10	15.49		105.96			
SH - 12	120.73	118.40	10.48		110.25	10.48		110.25
AE - 1	128.63	126.27	18.62		110.01	18.62		110.01
AE - 2	127.68	125.29	17.85		109.83	17.85		109.83
AE - 3	122.68	119.27	14.28	2.10	110.14			
AE - 4	133.84	131.40	23.30	0.21	110.71			
AE - 5	131.19	131.40	22.01		109.18			
AE - 8	134.21	131.30	25.49		108.72			
AE - 9	132.69	130.33	25.16	1.39	108.71			
AE - 10	132.55	129.50	18.98		113.57	18.99		113.56
AE - 11S	133.65	131.00	26.00	2.49	109.79			
AE - 11D	132.66	130.90	23.43		109.23			
AE - 12	132.90	130.66	20.79		112.11	20.78		112.12
AE - 14	131.88	129.42	24.21		107.67			
AE - 16	130.09	125.10	25.86	4.49	108.18			
AE - 17S	121.31	118.42	15.84		105.47			
AE - 17D	121.39	118.74	16.02		105.37			
AE - 18S	123.46	120.00	18.20		105.26			
AE - 18D	121.85	120.00	16.60		105.25			
AE - 20	130.89	127.73	17.04		113.85	17.03		113.86
AE - 21	132.24	132.24	20.98		111.26			
AE - 22	131.95	131.95	21.18		110.77			
MW - 4	125.54	123.40	13.40		112.14	13.42		112.12
RFW-1	133.49							
RFW-2	113.72							
on-site WS - 1 (BR)	132.99	131.26	26.43		106.56			
on-site WS - 2 (BR)*	131.26	130.31	25.50		105.76			
on-site Dug Well (DG-OB)	113.03	108.78	8.09		104.94			
Hill (DG-OB)*	118.50		8.45		110.05			
Emerson (DG-OB)*	116.40		8.50		107.90			
Rheume (DG-OB)*	118.10		13.30		104.80			
Carrington (DG-OB)	118.10		8.30		109.80			
Howard Manor (BR)*	108.40		12.00		96.40	7.32		101.08
Howard Manor (DR-OB)	108.60		5.13		103.47	5.14		103.46
Howard Residence (DR-OB)	116.50	114.70				11.84		104.66
Howard Residence (BR) *	115.70	114.90	21.40		94.30	14.08		101.62
Sawyer (DR-OB)*	107.30							
Joray/Armstrong (BR)*	120.40					48.30		72.10
Elwell (BR)*	129.20		29.30		99.90			
Banaski (BR)*	130.20					28.10		102.10

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Summary of Groundwater Elevations and Product Thickness Measurements
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Monitoring Well Location	Reference Elevation	Ground Surface Elevation	6/15/95			6/16/95		
			Depth to Water	Product Thickness	Equivalent Potentiometric Elevation	Depth to Water	Product Thickness	Equivalent Potentiometric Elevation
SH - 1D	127.37	125.00						
SH - 2S	123.07	120.40	18.20		104.87			
SH - 2D	122.98	120.40	18.10		104.88			
SH - 3S	131.84	129.70	24.54		107.30			
SH - 3D	132.23	129.80	25.42		106.81			
SH - 4S	131.05	128.50				18.93		112.12
SH - 4D	131.32	128.60				21.86		109.46
SH - 5	130.60	130.90				25.31	5.38	110.02
SH - 6	120.86	118.30				15.38	2.66	107.79
SH - 7	134.01	131.20				24.04	1.29	111.09
SH - 8	131.35	131.80				20.75		110.60
SH - 9	132.83	130.00	24.88		107.95			
SH - 10	128.70	127.10				23.55	2.76	107.50
SH - 11	121.45	119.10	15.52		105.93			
SH - 12	120.73	118.40						
AE - 1	128.63	126.27						
AE - 2	127.68	125.29						
AE - 3	122.68	119.27						
AE - 4	133.84	131.40						
AE - 5	131.19	131.40						
AE - 8	134.21	131.30						
AE - 9	132.69	130.33						
AE - 10	132.55	129.50						
AE - 11S	133.65	131.00						
AE - 11D	132.66	130.90				23.33		109.33
AE - 12	132.90	130.66						
AE - 14	131.88	129.42				24.22		107.66
AE - 16	130.09	125.10						
AE - 17S	121.31	118.42	15.87		105.44			
AE - 17D	121.39	118.74	16.04		105.35			
AE - 18S	123.46	120.00	18.22		105.24			
AE - 18D	121.85	120.00	16.60		105.25			
AE - 20	130.89	127.73						
AE - 21	132.24	132.24				21.01		111.23
AE - 22	131.95	131.95				21.21		110.74
MW - 4	125.54	123.40						
RFW-1	133.49							
RFW-2	113.72							
on-site WS - 1 (BR)	132.99	131.26				25.96		107.03
on-site WS - 2 (BR)*	131.26	130.31						
on-site Dug Well (DG-OB)	113.03	108.78						
Hill (DG-OB)*	118.50							
Emerson (DG-OB)*	116.40							
Rheume (DG-OB)*	118.10							
Carrington (DG-OB)	118.10							
Howard Manor (BR)*	108.40							
Howard Manor (DR-OB)	108.60							
Howard Residence (DR-OB)	116.50	114.70						
Howard Residence (BR) *	115.70	114.90						
Sawyer (DR-OB)*	107.30					3.84		103.46
Joray/Armstrong (BR)*	120.40							
Elwell (BR)*	129.20							
Banaski (BR)*	130.20							

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Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Monitoring Well Location	Reference Elevation	Ground Surface Elevation	6/19/95			6/20/95		
			Depth to Water	Product Thickness	Equivalent Potentiometric Elevation	Depth to Water	Product Thickness	Equivalent Potentiometric Elevation
SH - 1D	127.37	125.00						
SH - 2S	123.07	120.40						
SH - 2D	122.98	120.40						
SH - 3S	131.84	129.70						
SH - 3D	132.23	129.80						
SH - 4S	131.05	128.50						
SH - 4D	131.32	128.60						
SH - 5	130.60	130.90						
SH - 6	120.86	118.30						
SH - 7	134.01	131.20						
SH - 8	131.35	131.80						
SH - 9	132.83	130.00						
SH - 10	128.70	127.10						
SH - 11	121.45	119.10						
SH - 12	120.73	118.40						
AE - 1	128.63	126.27						
AE - 2	127.68	125.29						
AE - 3	122.68	119.27	14.28	2.01	110.07			
AE - 4	133.84	131.40	23.40	0.23	110.63	23.40	0.23	110.63
AE - 5	131.19	131.40	22.12		109.07	22.16		109.03
AE - 8	134.21	131.30	26.32	1.23	109.05			
AE - 9	132.69	130.33	25.27	1.42	108.63			
AE - 10	132.55	129.50						
AE - 11S	133.65	131.00	26.28	2.72	109.71			
AE - 11D	132.66	130.90						
AE - 12	132.90	130.66						
AE - 14	131.88	129.42						
AE - 16	130.09	125.10	25.95	4.48	108.08			
AE - 17S	121.31	118.42						
AE - 17D	121.39	118.74						
AE - 18S	123.46	120.00						
AE - 18D	121.85	120.00						
AE - 20	130.89	127.73						
AE - 21	132.24	132.24						
AE - 22	131.95	131.95						
MW - 4	125.54	123.40						
RFW-1	133.49							
RFW-2	113.72							
on-site WS - 1 (BR)	132.99	131.26						
on-site WS - 2 (BR)*	131.26	130.31						
on-site Dug Well (DG-OB)	113.03	108.78						
Hill (DG-OB)*	118.50							
Emerson (DG-OB)*	116.40							
Rheume (DG-OB)*	118.10							
Carrington (DG-OB)	118.10							
Howard Manor (BR)*	108.40							
Howard Manor (DR-OB)	108.60							
Howard Residence (DR-OB)	116.50	114.70						
Howard Residence (BR) *	115.70	114.90						
Sawyer (DR-OB)*	107.30							
Joray/Armstrong (BR)*	120.40							
Elwell (BR)*	129.20							
Banaski (BR)*	130.20							

TABLE 1
Summary of Groundwater Elevations and Product Thickness Measurements
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Monitoring Well Location	Reference Elevation	Ground Surface Elevation	8/9/95			12/13/95		
			Depth to Water	Product Thickness	Equivalent Potentiometric Elevation	Depth to Water	Product Thickness	Equivalent Potentiometric Elevation
SH - 1D	127.37	125.00				17.10		110.27
SH - 2S	123.07	120.40	18.38		104.69	17.74		105.33
SH - 2D	122.98	120.40	18.29		104.69	17.65		105.33
SH - 3S	131.84	129.70	25.14		106.70			
SH - 3D	132.23	129.80	25.99		106.24			
SH - 4S	131.05	128.50						
SH - 4D	131.32	128.60						
SH - 5	130.60	130.90						
SH - 6	120.86	118.30						
SH - 7	134.01	131.20						
SH - 8	131.35	131.80						
SH - 9	132.83	130.00						
SH - 10	128.70	127.10						
SH - 11	121.45	119.10						
SH - 12	120.73	118.40						
AE - 1	128.63	126.27						
AE - 2	127.68	125.29						
AE - 3	122.68	119.27						
AE - 4	133.84	131.40						
AE - 5	131.19	131.40						
AE - 8	134.21	131.30						
AE - 9	132.69	130.33						
AE - 10	132.55	129.50						
AE - 11S	133.65	131.00						
AE - 11D	132.66	130.90						
AE - 12	132.90	130.66						
AE - 14	131.88	129.42						
AE - 16	130.09	125.10						
AE - 17S	121.31	118.42						
AE - 17D	121.39	118.74						
AE - 18S	123.46	120.00						
AE - 18D	121.85	120.00						
AE - 20	130.89	127.73						
AE - 21	132.24	132.24						
AE - 22	131.95	131.95						
MW - 4	125.54	123.40						
RFW-1	133.49							
RFW-2	113.72							
on-site WS - 1 (BR)	132.99	131.26						
on-site WS - 2 (BR)*	131.26	130.31						
on-site Dug Well (DG-OB)	113.03	108.78						
Hill (DG-OB)*	118.50							
Emerson (DG-OB)*	116.40							
Rheume (DG-OB)*	118.10							
Carrington (DG-OB)	118.10							
Howard Manor (BR)*	108.40							
Howard Manor (DR-OB)	108.60							
Howard Residence (DR-OB)	116.50	114.70	12.00		104.50			
Howard Residence (BR) *	115.70	114.90	13.27		102.43			
Sawyer (DR-OB)*	107.30							
Joray/Armstrong (BR)*	120.40							
Elwell (BR)*	129.20							
Banaski (BR)*	130.20							

TABLE 1
Summary of Groundwater Elevations and Product Thickness Measurements
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Monitoring Well Location	Reference Elevation	Ground Surface Elevation	12/14/95			12/15/95		
			Depth to Water	Product Thickness	Equivalent Potentiometric Elevation	Depth to Water	Product Thickness	Equivalent Potentiometric Elevation
SH - 1D	127.37	125.00						
SH - 2S	123.07	120.40						
SH - 2D	122.98	120.40						
SH - 3S	131.84	129.70	24.15		107.69	24.10		107.74
SH - 3D	132.23	129.80	25.06		107.17			
SH - 4S	131.05	128.50	19.10		111.95	19.12		111.93
SH - 4D	131.32	128.60	21.62		109.70	21.63		109.69
SH - 5	130.60	130.90				22.91	3.16	110.47
SH - 6	120.86	118.30				15.84	3.58	108.13
SH - 7	134.01	131.20				23.43	0.99	111.44
SH - 8	131.35	131.80						
SH - 9	132.83	130.00				24.62		108.21
SH - 10	128.70	127.10				22.58	2.13	107.93
SH - 11	121.45	119.10				15.07		106.38
SH - 12	120.73	118.40						
AE - 1	128.63	126.27						
AE - 2	127.68	125.29						
AE - 3	122.68	119.27				13.43	1.59	110.57
AE - 4	133.84	131.40				22.75		111.09
AE - 5	131.19	131.40						
AE - 8	134.21	131.30				26.56	1.96	109.49
AE - 9	132.69	130.33				24.41	1.01	109.14
AE - 10	132.55	129.50						
AE - 11S	133.65	131.00				24.55	1.16	110.10
AE - 11D	132.66	130.90				23.06		109.60
AE - 12	132.90	130.66						
AE - 14	131.88	129.42				23.84		108.04
AE - 16	130.09	125.10				25.12	4.14	108.61
AE - 17S	121.31	118.42				15.40		105.91
AE - 17D	121.39	118.74				15.63		105.76
AE - 18S	123.46	120.00				17.78		105.68
AE - 18D	121.85	120.00				16.16		105.69
AE - 20	130.89	127.73						
AE - 21	132.24	132.24				20.65		111.59
AE - 22	131.95	131.95				20.80		111.15
MW - 4	125.54	123.40						
RFW-1	133.49							
RFW-2	113.72							
on-site WS - 1 (BR)	132.99	131.26						
on-site WS - 2 (BR)*	131.26	130.31						
on-site Dug Well (DG-OB)	113.03	108.78	7.69		105.34			
Hill (DG-OB)*	118.50							
Emerson (DG-OB)*	116.40							
Rheume (DG-OB)*	118.10							
Carrington (DG-OB)	118.10							
Howard Manor (BR)*	108.40							
Howard Manor (DR-OB)	108.60							
Howard Residence (DR-OB)	116.50	114.70						
Howard Residence (BR) *	115.70	114.90						
Sawyer (DR-OB)*	107.30							
Joray/Armstrong (BR)*	120.40							
Elwell (BR)*	129.20							
Banaski (BR)*	130.20							

TABLE 1
Summary of Groundwater Elevations and Product Thickness Measurements
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Monitoring Well Location	Reference Elevation	Ground Surface Elevation	12/18/95			12/21/95		
			Depth to Water	Product Thickness	Equivalent Potentiometric Elevation	Depth to Water	Product Thickness	Equivalent Potentiometric Elevation
SH - 1D	127.37	125.00						
SH - 2S	123.07	120.40						
SH - 2D	122.98	120.40						
SH - 3S	131.84	129.70						
SH - 3D	132.23	129.80						
SH - 4S	131.05	128.50	19.13		111.92			
SH - 4D	131.32	128.60	21.63		109.69			
SH - 5	130.60	130.90						
SH - 6	120.86	118.30						
SH - 7	134.01	131.20						
SH - 8	131.35	131.80	20.42		110.93			
SH - 9	132.83	130.00						
SH - 10	128.70	127.10						
SH - 11	121.45	119.10						
SH - 12	120.73	118.40	10.05		110.68			
AE - 1	128.63	126.27	18.37		110.26			
AE - 2	127.68	125.29	17.37		110.31			
AE - 3	122.68	119.27						
AE - 4	133.84	131.40	22.75		111.09			
AE - 5	131.19	131.40	21.60	0.18	109.75			
AE - 8	134.21	131.30						
AE - 9	132.69	130.33						
AE - 10	132.55	129.50	19.04		113.51			
AE - 11S	133.65	131.00						
AE - 11D	132.66	130.90						
AE - 12	132.90	130.66	20.89		112.01			
AE - 14	131.88	129.42						
AE - 16	130.09	125.10						
AE - 17S	121.31	118.42						
AE - 17D	121.39	118.74						
AE - 18S	123.46	120.00						
AE - 18D	121.85	120.00						
AE - 20	130.89	127.73	17.38		113.51			
AE - 21	132.24	132.24						
AE - 22	131.95	131.95						
MW - 4	125.54	123.40	13.54		112.00			
RFW-1	133.49					23.83		109.66
RFW-2	113.72					4.88		108.84
on-site WS - 1 (BR)	132.99	131.26						
on-site WS - 2 (BR)*	131.26	130.31						
on-site Dug Well (DG-OB)	113.03	108.78						
Hill (DG-OB)*	118.50							
Emerson (DG-OB)*	116.40							
Rheume (DG-OB)*	118.10							
Carrington (DG-OB)	118.10							
Howard Manor (BR)*	108.40							
Howard Manor (DR-OB)	108.60		4.60		104.00			
Howard Residence (DR-OB)	116.50	114.70	11.59		104.91			
Howard Residence (BR) *	115.70	114.90						
Sawyer (DR-OB)*	107.30							
Joray/Armstrong (BR)*	120.40							
Elwell (BR)*	129.20							
Banaski (BR)*	130.20							

TABLE 1
Summary of Groundwater Elevations and Product Thickness Measurements
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Monitoring Well Location	Reference Elevation	Ground Surface Elevation	4/2/96			4/3/96		
			Depth to Water	Product Thickness	Equivalent Potentiometric Elevation	Depth to Water	Product Thickness	Equivalent Potentiometric Elevation
SH - 1D	127.37	125.00				16.53		110.84
SH - 2S	123.07	120.40	17.35		105.72			
SH - 2D	122.98	120.40	17.24		105.74			
SH - 3S	131.84	129.70	23.13		108.71			
SH - 3D	132.23	129.80	24.23		108.00			
SH - 4S	131.05	128.50	17.40		113.65			
SH - 4D	131.32	128.60	20.54		110.78			
SH - 5	130.60	130.90				21.93	3.00	111.31
SH - 6	120.86	118.30				14.58	2.66	108.59
SH - 7	134.01	131.20				22.24	0.80	112.47
SH - 8	131.35	131.80				19.58		111.77
SH - 9	132.83	130.00	23.63		109.20			
SH - 10	128.70	127.10				21.42	1.45	108.51
SH - 11	121.45	119.10	14.36		107.09			
SH - 12	120.73	118.40				9.43		111.30
AE - 1	128.63	126.27				17.59		111.04
AE - 2	127.68	125.29				16.82		110.86
AE - 3	122.68	119.27				11.11	0.01	111.58
AE - 4	133.84	131.40				21.92		111.92
AE - 5	131.19	131.40				20.94	0.02	110.27
AE - 8	134.21	131.30				24.33	0.92	110.74
AE - 9	132.69	130.33				23.52	0.67	109.74
AE - 10	132.55	129.50	17.57		114.98			
AE - 11S	133.65	131.00				23.91	1.45	110.99
AE - 11D	132.66	130.90				22.37		110.29
AE - 12	132.90	130.66	19.30		113.60			
AE - 14	131.88	129.42				23.25		108.63
AE - 16	130.09	125.10				25.24	4.77	109.05
AE - 17S	121.31	118.42	14.82		106.49			
AE - 17D	121.39	118.74	15.04		106.35			
AE - 18S	123.46	120.00	17.31		106.15			
AE - 18D	121.85	120.00	15.70		106.15			
AE - 20	130.89	127.73	15.23		115.66			
AE - 21	132.24	132.24				19.79		112.45
AE - 22	131.95	131.95				20.03		111.92
MW - 4	125.54	123.40				12.46		113.08
RFW-1	133.49					23.21		110.28
RFW-2	113.72					4.44		109.28
on-site WS - 1 (BR)	132.99	131.26						
on-site WS - 2 (BR)*	131.26	130.31						
on-site Dug Well (DG-OB)	113.03	108.78	7.24		105.79			
Hill (DG-OB)*	118.50							
Emerson (DG-OB)*	116.40							
Rheume (DG-OB)*	118.10							
Carrington (DG-OB)	118.10							
Howard Manor (BR)*	108.40							
Howard Manor (DR-OB)	108.60					4.32		104.28
Howard Residence (DR-OB)	116.50	114.70				11.04		105.46
Howard Residence (BR) *	115.70	114.90						
Sawyer (DR-OB)*	107.30							
Joray/Armstrong (BR)*	120.40							
Elwell (BR)*	129.20							
Banaski (BR)*	130.20							

TABLE 1
Summary of Groundwater Elevations and Product Thickness Measurements
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Monitoring Well Location	Reference Elevation	Ground Surface Elevation	8/12/96			8/13/96		
			Depth to Water	Product Thickness	Equivalent Potentiometric Elevation	Depth to Water	Product Thickness	Equivalent Potentiometric Elevation
SH - 1D	127.37	125.00	17.75		109.62			
SH - 2S	123.07	120.40	17.97		105.10			
SH - 2D	122.98	120.40	17.86		105.12			
SH - 3S	131.84	129.70	24.32		107.52			
SH - 3D	132.23	129.80	25.26		106.97			
SH - 4S	131.05	128.50	18.56		112.49			
SH - 4D	131.32	128.60	21.75		109.57			
SH - 5	130.60	130.90				25.35	5.46	110.05
SH - 6	120.86	118.30				14.35	1.40	107.73
SH - 7	134.01	131.20				23.68	1.07	111.26
SH - 8	131.35	131.80				20.71		110.64
SH - 9	132.83	130.00	24.85		107.98			
SH - 10	128.70	127.10				23.17	2.27	107.46
SH - 11	121.45	119.10	15.41		106.04			
SH - 12	120.73	118.40				10.64		110.09
AE - 1	128.63	126.27				18.81		109.82
AE - 2	127.68	125.29				18.03		109.65
AE - 3	122.68	119.27				13.01	0.48	110.07
AE - 4	133.84	131.40				23.20		110.64
AE - 5	131.19	131.40				22.19	0.01	109.01
AE - 8	134.21	131.30				26.45	1.80	109.45
AE - 9	132.69	130.33				25.19	1.24	108.55
AE - 10	132.55	129.50	18.65		113.90			
AE - 11S	133.65	131.00				26.05	2.52	109.77
AE - 11D	132.66	130.90	23.50		109.16			
AE - 12	132.90	130.66	20.42		112.48			
AE - 14	131.88	129.42	24.26		107.62			
AE - 16	130.09	125.10				26.10	4.60	108.04
AE - 17S	121.31	118.42	15.73		105.58			
AE - 17D	121.39	118.74	15.88		105.51			
AE - 18S	123.46	120.00	17.96		105.50			
AE - 18D	121.85	120.00	16.36		105.49			
AE - 20	130.89	127.73	16.64		114.25			
AE - 21	132.24	132.24						
AE - 22	131.95	131.95				21.25		110.70
MW - 4	125.54	123.40				13.47		112.07
RFW-1	133.49					24.40		109.09
RFW-2	113.72					5.48		108.24
on-site WS - 1 (BR)	132.99	131.26						
on-site WS - 2 (BR)*	131.26	130.31						
on-site Dug Well (DG-OB)	113.03	108.78	7.78		105.25			
Hill (DG-OB)*	118.50							
Emerson (DG-OB)*	116.40							
Rheume (DG-OB)*	118.10							
Carrington (DG-OB)	118.10							
Howard Manor (BR)*	108.40							
Howard Manor (DR-OB)	108.60							
Howard Residence (DR-OB)	116.50	114.70						
Howard Residence (BR) *	115.70	114.90						
Sawyer (DR-OB)*	107.30							
Joray/Armstrong (BR)*	120.40							
Elwell (BR)*	129.20							
Banaski (BR)*	130.20							

TABLE 1
Summary of Groundwater Elevations and Product Thickness Measurements
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Monitoring Well Location	Reference Elevation	Ground Surface Elevation	8/14/96		
			Depth to Water	Product Thickness	Equivalent Potentiometric Elevation
SH - 1D	127.37	125.00			
SH - 2S	123.07	120.40			
SH - 2D	122.98	120.40			
SH - 3S	131.84	129.70			
SH - 3D	132.23	129.80			
SH - 4S	131.05	128.50			
SH - 4D	131.32	128.60			
SH - 5	130.60	130.90			
SH - 6	120.86	118.30			
SH - 7	134.01	131.20			
SH - 8	131.35	131.80			
SH - 9	132.83	130.00			
SH - 10	128.70	127.10			
SH - 11	121.45	119.10			
SH - 12	120.73	118.40			
AE - 1	128.63	126.27			
AE - 2	127.68	125.29			
AE - 3	122.68	119.27			
AE - 4	133.84	131.40			
AE - 5	131.19	131.40			
AE - 8	134.21	131.30			
AE - 9	132.69	130.33			
AE - 10	132.55	129.50			
AE - 11S	133.65	131.00			
AE - 11D	132.66	130.90			
AE - 12	132.90	130.66			
AE - 14	131.88	129.42			
AE - 16	130.09	125.10			
AE - 17S	121.31	118.42			
AE - 17D	121.39	118.74			
AE - 18S	123.46	120.00			
AE - 18D	121.85	120.00			
AE - 20	130.89	127.73			
AE - 21	132.24	132.24	20.98		111.26
AE - 22	131.95	131.95			
MW - 4	125.54	123.40			
RFW-1	133.49				
RFW-2	113.72				
on-site WS - 1 (BR)	132.99	131.26			
on-site WS - 2 (BR)*	131.26	130.31			
on-site Dug Well (DG-OB)	113.03	108.78			
Hill (DG-OB)*	118.50				
Emerson (DG-OB)*	116.40				
Rheaume (DG-OB)*	118.10				
Carrington (DG-OB)	118.10				
Howard Manor (BR)*	108.40				
Howard Manor (DR-OB)	108.60		4.71		103.89
Howard Residence (DR-OB)	116.50	114.70	11.55		104.95
Howard Residence (BR) *	115.70	114.90			
Sawyer (DR-OB)*	107.30				
Joray/Armstrong (BR)*	120.40				
Elwell (BR)*	129.20				
Banaski (BR)*	130.20				

TABLE 1
Summary of Groundwater Elevations and Product Thickness Measurements
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Notes:

1. Measurements are reported in feet.
2. Groundwater level and product thickness measurements were obtained by SHA on the dates indicated using a Slope Indicator Co. oil/water interface probe or water level meter.
3. Reference point elevations were surveyed by Hayner/Swanson, Inc. (HSI) of Nashua, New Hampshire between June 16 and 20, 1995. Elevations are in feet relative to the USGS datum which is equivalent to mean sea level.
4. The top of the PVC well casing was used as the reference point for measurements at all wells except AE-17D where the top of the steel casing was used as a reference point.
5. "BR" indicates a bedrock water supply well.
"DG-OB" indicates a dug overburden water supply well.
"DR-OB" indicates a drilled or driven overburden water supply well.
6. Equivalent potentiometric elevations were calculated by multiplying the measured product thickness by a product specific gravity and subtracting this from the depth to groundwater. The following specific gravities were used for the corresponding monitoring wells based on specific gravity data determined from product samples collected at the site:

0.83 – AE-3

0.85 – AE-9, SH-10

0.86 – AE-11S

0.87 – SH-6, SH-7

0.88 – AE-16, SH-5

0.90 – AE-5

0.94 – AE-8
7. "*" indicates wells actively used for water supply. Therefore, water levels may not represent static conditions.
8. Reference elevations for monitoring wells RFW-1 and RFW-2 were provided by Roy F. Weston (RFW) and adjusted by +0.26 feet to reflect the difference between SHA's and RFW's surveyed elevation of monitoring well SH-6.

TABLE 2
Summary of Surface Water Elevations
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Date				6/13/95		6/20/95		6/21/95		4/2/96		4/3/96		8/14/96	
Surface Water Level	Reference Elevation	Local Benchmark	Stream Bed Elevation	Depth to Water	Surface Water Elevation	Depth to Water	Surface Water Elevation	Depth to Water	Surface Water Elevation	Depth to Water	Surface Water Elevation	Depth to Water	Surface Water Elevation	Depth to Water	Surface Water Elevation
SW - 1	112.20	113.42	108.95	2.80	109.40	2.88	109.32			2.15	110.05			---	
SW - 2	110.49	110.81	107.64	2.70	107.79	2.85	107.64			2.32	108.17			---	
SW - 3	112.04	110.81	106.30	5.20	106.84	5.24	106.80					4.30	107.74	---	
SW - 4	110.71	111.21	106.11	4.10	106.61	3.94	106.77			3.47	107.24			---	
SW - 5	109.61	107.89	104.11	4.80	104.81	4.94	104.67			3.78	105.83			4.17	105.44
SW - 6	109.50	107.48	103.80	5.20	104.30			5.28	104.22			4.86	104.64	5.00	104.50
SW - 7	107.88	114.76	104.03	3.70	104.18			3.63	104.25	3.20	104.68			3.04	104.84
SW - 8	106.28	106.28	100.53	4.40	101.88			4.53	101.75			3.92	102.36	4.50	101.78

Notes:

1. Elevations and depths are reported in feet.
2. Surface water measurements were obtained by SHA on the dates indicated using a Slope Indicator Co. water level meter, tape, or ruler.
3. Reference point elevations were surveyed by Hayner/Swanson, Inc. (HSI) of Nashua, New Hampshire between June 16 and 20, 1995. Elevations are in feet relative to the USGS datum which is equivalent to mean sea level.
4. The top of a wooden grade stake was used as the reference point for measurements at all locations except SW-8. A metal plaque cemented into a bridge crossing Kelley Brook was used as the reference point for SW-8.
5. "----" indicates measurement not recorded due to absence of reference point or no surface water present at reference point.

TABLE 3
Summary of VOC Data (mg/l) for Groundwater Samples
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Location		SH-1D				SH-1D DUP (OW-1)	SH-2S				SH-2D				SH-3S			
VOC Dilution Factor		1				1	1				1				1			
Date of Sample		6/14/95	12/13/95	4/3/96	8/12/96	8/12/96	6/15/95	12/13/95	4/2/96	8/12/96	6/15/95	12/13/95	4/2/96	8/12/96	6/15/95	12/14/95	4/3/96	8/12/96
Compounds	AGQS																	
Benzene	0.005 (MCL)																	
n-Butylbenzene	NA																	
sec-Butylbenzene	NA																	
Ethylbenzene	0.70 (MCL)																	
Isopropylbenzene	NA																	
p-Isopropyltoluene	NA																	
Naphthalene	0.020 (LHA)																	
n-Propylbenzene	NA																	
Toluene	1.0 (MCL)													0.007				
1,2,4-Trimethylbenzene	NA																	
1,3,5-Trimethylbenzene	NA																	
o-Xylene	10.0* (MCL)																	
m,p-Xylene	10.0* (MCL)																	
MTBE	0.10 (BHRA)																	
Total Non-Chlorinated Aromatic VOCs + MTBE	NA													0.007				
Chloroethane	NA																	
Chloroform	0.006** (EPA 10-6)																	
1,2-Dichlorobenzene	0.60 (MCL)																	
1,4-Dichlorobenzene	0.075 (MCL)																	
1,1-Dichloroethane	0.081 (BHRA)														0.002	0.004		
1,2-Dichloroethane	0.005 (MCL)																	
1,1-Dichloroethene	0.007 (MCL)																	
cis-1,2-Dichloroethene	0.070 (MCL)									0.002								
trans-1,2-Dichloroethene	0.10 (MCL)																	
Tetrachloroethene	0.005 (MCL)									0.002					0.002	0.005		
1,1,1-Trichloroethane	0.20 (MCL)									0.002					0.004	0.011		
Trichloroethene	0.005 (MCL)																	
Vinyl Chloride	0.002 (MCL)																	
Total Chlorinated VOCs	NA									0.006					0.008	0.020		
2-Butanone (MEK)	0.17 (LHA)																	
4-Methyl-2-pentanone (MIBK)	0.35 (BHRA)																	

TABLE 3
Summary of VOC Data (mg/l) for Groundwater Samples
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Location		SH-3D				SH-4S				SH-4D			SH-5	SH-5 DUP. (OW-3)	SH-6	SH-7
VOC Dilution Factor		1				1				1			10	10	10	1
Date of Sample		6/15/95	12/14/95	4/2/96	8/12/96	6/16/95	12/14/95	4/2/96	8/12/96	6/16/95	12/14/95	4/2/96	6/19/95	6/19/95	6/22/95	6/21/95
Compounds	AGQS															
Benzene	0.005 (MCL)					0.002							0.14	0.16	0.78	0.004
n-Butylbenzene	NA															
sec-Butylbenzene	NA															
Ethylbenzene	0.70 (MCL)					0.003							0.07	0.11	0.46	0.036
Isopropylbenzene	NA													0.01	0.02	0.003
p-Isopropyltoluene	NA															0.001
Naphthalene	0.020 (LHA)					0.002			0.003				0.03	0.09	0.10	0.038
n-Propylbenzene	NA					0.001							0.02	0.03	0.04	0.009
Toluene	1.0 (MCL)	0.005											0.99	1.4	1.2	0.055
1,2,4-Trimethylbenzene	NA					0.008			0.002				0.10	0.25	0.31	0.086
1,3,5-Trimethylbenzene	NA												0.04	0.07	0.12	0.027
o-Xylene	10.0* (MCL)												0.12	0.21	0.39	0.077
m,p-Xylene	10.0* (MCL)					0.002							0.14	0.38	1.0	0.10
MTBE	0.10 (BHRA)															
Total Non-Chlorinated Aromatic VOCs + MTBE	NA	0.005				0.018			0.005				1.65	2.71	4.42	0.436
Chloroethane	NA														0.20	
Chloroform	0.006** (EPA 10-6)															
1,2-Dichlorobenzene	0.60 (MCL)													0.01	0.02	0.007
1,4-Dichlorobenzene	0.075 (MCL)															
1,1-Dichloroethane	0.081 (BHRA)					0.012			0.003				0.04	0.04	3.0	0.009
1,2-Dichloroethane	0.005 (MCL)												0.02	0.02		
1,1-Dichloroethene	0.007 (MCL)												0.03	0.04	0.02	
cis-1,2-Dichloroethene	0.070 (MCL)				0.002	0.015							2.1	2.2	1.3	0.038
trans-1,2-Dichloroethene	0.10 (MCL)														0.11	
Tetrachloroethene	0.005 (MCL)							0.002	0.002							
1,1,1-Trichloroethane	0.20 (MCL)					0.004							1.4	1.8	0.31	0.038
Trichloroethene	0.005 (MCL)												1.5	2.0		
Vinyl Chloride	0.002 (MCL)														2.2	
Total Chlorinated VOCs	NA				0.002	0.031		0.002	0.005				5.09	6.11	7.16	0.092
2-Butanone (MEK)	0.17 (LHA)															0.01
4-Methyl-2-pentanone (MIBK)	0.35 (BHRA)												0.1			

TABLE 3
Summary of VOC Data (mg/l) for Groundwater Samples
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Location		SH-8				SH-9				SH-10	SH-10 DUP. (OW-4)	SH-11				SH-12			
VOC Dilution Factor		1				1				10	10	1				1			
Date of Sample		6/16/95	12/18/95	4/3/96	8/13/96	6/15/95	12/15/95	4/2/96	8/12/96	6/22/95	6/22/95	6/15/95	12/15/95	4/2/96	8/12/96	6/14/95	12/18/95	4/3/96	8/13/96
Compounds	AGQS																		
Benzene	0.005 (MCL)									0.01	0.01								
n-Butylbenzene	NA				0.001														
sec-Butylbenzene	NA										0.02								
Ethylbenzene	0.70 (MCL)									1.3	0.85								
Isopropylbenzene	NA				0.002					0.08	0.03								
p-Isopropyltoluene	NA									0.08	0.02								
Naphthalene	0.020 (LHA)			0.002	0.035					0.46	0.25								
n-Propylbenzene	NA				0.003					0.19	0.07								
Toluene	1.0 (MCL)									0.66	0.57							0.001	
1,2,4-Trimethylbenzene	NA			0.003	0.052					1.7	0.72								
1,3,5-Trimethylbenzene	NA									0.76	0.26								
o-Xylene	10.0* (MCL)			0.001	0.017					0.94	0.64								
m,p-Xylene	10.0* (MCL)									2.6	1.7							0.001	
MTBE	0.10 (BHRA)																		
Total Non-Chlorinated Aromatic VOCs + MTBE	NA			0.006	0.110					8.78	5.14							0.002	
Chloroethane	NA																		
Chloroform	0.006** (EPA 10-6)																		
1,2-Dichlorobenzene	0.60 (MCL)				0.004					0.03	0.02								
1,4-Dichlorobenzene	0.075 (MCL)				0.001														
1,1-Dichloroethane	0.081 (BHRA)	0.009	0.006	0.002	0.014	0.005		0.004											
1,2-Dichloroethane	0.005 (MCL)							0.003											
1,1-Dichloroethene	0.007 (MCL)																		
cis-1,2-Dichloroethene	0.070 (MCL)	0.005	0.002		0.004	0.008	0.003	0.027	0.005	0.03	0.03								
trans-1,2-Dichloroethene	0.10 (MCL)																		
Tetrachloroethene	0.005 (MCL)		0.004		0.004	0.016	0.019	0.016	0.013	0.03	0.02								
1,1,1-Trichloroethane	0.20 (MCL)	0.044	0.036	0.013	0.041	0.010		0.034	0.006	0.22	0.22								
Trichloroethene	0.005 (MCL)	0.024	0.019	0.007	0.048	0.002		0.019											
Vinyl Chloride	0.002 (MCL)																		
Total Chlorinated VOCs	NA	0.082	0.067	0.022	0.116	0.041	0.022	0.103	0.024	0.31	0.29								
2-Butanone (MEK)	0.17 (LHA)																		
4-Methyl-2-pentanone (MIBK)	0.35 (BHRA)																		

TABLE 3
Summary of VOC Data (mg/l) for Groundwater Samples
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Location		AE-1				AE-2				AE-3		AE-4				AE-5		AE-8	AE-9
VOC Dilution Factor		1				1				1	10	10		1	10	10		10	10
Date of Sample		6/14/95	12/18/95	4/3/96	8/13/96	6/14/95	12/18/95	4/3/96	8/13/96	6/22/95	4/3/96	6/20/95	12/18/95	4/3/96	8/13/96	6/20/95	8/14/96	6/22/95	6/22/95
Compounds	AGQS																		
Benzene	0.005 (MCL)									0.026			0.01	0.014		0.06	0.04	0.04	0.07
n-Butylbenzene	NA				0.002				0.007						0.03				
sec-Butylbenzene	NA		0.002	0.003	0.004		0.008		0.008	0.010	0.02	0.10	0.02		0.01				
Ethylbenzene	0.70 (MCL)	0.011	0.014	0.023	0.019	0.084	0.045	0.079	0.078	0.10	0.08	0.11	0.07	0.058	0.09	0.16	0.08	0.02	0.13
Isopropylbenzene	NA	0.004	0.005	0.009	0.008	0.020	0.018	0.021	0.021	0.020	0.02	0.05	0.02	0.013	0.03	0.01			
p-Isopropyltoluene	NA		0.004		0.010				0.011	0.010		0.10	0.04	0.018	0.01				
Naphthalene	0.020 (LHA)	0.010	0.016	0.032	0.029	0.091	0.057	0.098	0.130	0.22	0.26	0.28	0.15	0.074	0.17	0.19	0.20	0.02	0.08
n-Propylbenzene	NA	0.006	0.009	0.013	0.014	0.033	0.026	0.033	0.035	0.020	0.04	0.11	0.03	0.021	0.04	0.03			0.02
Toluene	1.0 (MCL)							0.001		0.13	0.1	0.01		0.007		0.56	0.44	0.13	0.76
1,2,4-Trimethylbenzene	NA	0.005	0.052	0.03	0.006	0.19	0.15	0.19	0.190	0.35	0.43	0.86	0.21	0.22	0.16	0.26	0.22	0.05	0.17
1,3,5-Trimethylbenzene	NA	0.011	0.017	0.028	0.019	0.025	0.008	0.006		0.10	0.13	0.36	0.08	0.092	0.07	0.08	0.06	0.02	0.05
o-Xylene	10.0* (MCL)	0.003	0.04	0.023	0.001	0.16	0.077	0.16	0.140	0.17	0.21	0.21	0.09	0.14	0.05	0.25	0.23	0.06	0.20
m,p-Xylene	10.0* (MCL)	0.011	0.015	0.024	0.012	0.064	0.009	0.028	0.011	0.33	0.29	0.25	0.12	0.15	0.11	0.52	0.37	0.10	0.43
MTBE	0.10 (BHRA)	0.21	0.11	0.04	0.030														
Total Non-Chlorinated Aromatic VOCs + MTBE	NA	0.271	0.284	0.225	0.154	0.667	0.398	0.616	0.631	1.486	1.58	2.44	0.84	0.807	0.77	2.12	1.64	0.44	1.91
Chloroethane	NA																		
Chloroform	0.006** (EPA 10-6)																		
1,2-Dichlorobenzene	0.60 (MCL)									0.001						0.02	0.02		
1,4-Dichlorobenzene	0.075 (MCL)																		
1,1-Dichloroethane	0.081 (BHRA)															0.07		0.44	0.22
1,2-Dichloroethane	0.005 (MCL)																	0.03	
1,1-Dichloroethene	0.007 (MCL)																		
cis-1,2-Dichloroethene	0.070 (MCL)									0.002				0.002		0.04	0.02	0.49	0.18
trans-1,2-Dichloroethene	0.10 (MCL)																		
Tetrachloroethene	0.005 (MCL)																		
1,1,1-Trichloroethane	0.20 (MCL)															0.07	0.04	0.07	0.36
Trichloroethene	0.005 (MCL)																		
Vinyl Chloride	0.002 (MCL)															0.13			
Total Chlorinated VOCs	NA									0.003				0.002		0.33	0.08	1.03	0.76
2-Butanone (MEK)	0.17 (LHA)																		
4-Methyl-2-pentanone (MIBK)	0.35 (BHRA)																		

TABLE 3
Summary of VOC Data (mg/l) for Groundwater Samples
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Location		AE-9B	AE-10			AE-10 DUP (OW-1)	AE-11D				AE-12				AE-14			
VOC Dilution Factor		10	1			1	1				1				1			
Date of Sample		6/22/95	6/14/95	12/18/95	4/2/96	4/3/96	6/16/95	12/15/95	4/3/96	8/14/96	6/14/95	12/18/95	4/2/96	8/12/96	6/16/95	12/15/95	4/3/96	8/12/96
Compounds	AGQS																	
Benzene	0.005 (MCL)	0.15					0.005		0.003		0.004			0.001				
n-Butylbenzene	NA																	
sec-Butylbenzene	NA	0.01									0.002							
Ethylbenzene	0.70 (MCL)	0.31					0.001		0.001		0.068		0.001	0.030			0.003	
Isopropylbenzene	NA	0.02									0.008			0.003			0.002	
p-Isopropyltoluene	NA													0.001				
Naphthalene	0.020 (LHA)	0.23					0.002		0.002		0.053			0.015			0.013	
n-Propylbenzene	NA	0.06									0.021					0.001		
Toluene	1.0 (MCL)	1.5					0.017		0.005		0.005							
1,2,4-Trimethylbenzene	NA	0.45					0.004		0.003		0.16		0.004	0.056			0.016	
1,3,5-Trimethylbenzene	NA	0.12					0.002				0.045			0.016			0.001	
o-Xylene	10.0* (MCL)	0.46					0.008		0.003		0.12		0.003	0.060			0.032	
m,p-Xylene	10.0* (MCL)	1.0					0.008		0.003		0.081		0.002	0.035				
MTBE	0.10 (BHRA)																	
Total Non-Chlorinated Aromatic VOCs + MTBE	NA	4.31					0.047		0.02		0.567		0.010	0.217			0.068	
Chloroethane	NA																	
Chloroform	0.006** (EPA 10-6)										0.002	0.002						
1,2-Dichlorobenzene	0.60 (MCL)	0.02																
1,4-Dichlorobenzene	0.075 (MCL)																	
1,1-Dichloroethane	0.081 (BHRA)	0.18					0.005		0.003		0.063	0.029	0.024	0.017			0.003	
1,2-Dichloroethane	0.005 (MCL)						0.004				0.002							
1,1-Dichloroethene	0.007 (MCL)																	
cis-1,2-Dichloroethene	0.070 (MCL)	0.54					0.29	0.004	0.15	0.008	0.16	0.003	0.006	0.022	0.013	0.014	0.028	0.010
trans-1,2-Dichloroethene	0.10 (MCL)																	
Tetrachloroethene	0.005 (MCL)										0.021	0.047	0.016	0.020	0.009	0.01	0.013	0.009
1,1,1-Trichloroethane	0.20 (MCL)	0.75					0.089		0.032	0.006	0.075	0.026	0.021	0.029	0.011	0.005	0.011	0.005
Trichloroethene	0.005 (MCL)						0.003			0.003	0.010			0.007	0.006	0.005	0.011	0.003
Vinyl Chloride	0.002 (MCL)																	
Total Chlorinated VOCs	NA	1.49					0.391	0.004	0.185	0.017	0.333	0.107	0.067	0.095	0.039	0.034	0.066	0.027
2-Butanone (MEK)	0.17 (LHA)																	
4-Methyl-2-pentanone (MIBK)	0.35 (BHRA)																	

TABLE 3
Summary of VOC Data (mg/l) for Groundwater Samples
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Location		AE-16	AE-17S				AE-17D				AE-18S				AE-18D			
VOC Dilution Factor		10	1				10		1		10				1			
Date of Sample		6/22/95	6/15/95	12/15/95	4/2/96	8/12/96	6/15/95	12/15/95	4/2/96	8/12/96	6/15/95	12/15/95	4/2/96	8/12/96	6/15/95	12/15/95	4/2/96	8/12/96
Compounds	AGQS																	
Benzene	0.005 (MCL)	0.05					0.04	0.06	0.05	0.007	0.01	0.07	0.12	0.03				
n-Butylbenzene	NA																	
sec-Butylbenzene	NA																	
Ethylbenzene	0.70 (MCL)	0.09										0.06	0.07	0.02				
Isopropylbenzene	NA																	
p-Isopropyltoluene	NA																	
Naphthalene	0.020 (LHA)	0.07						0.06		0.008		0.03	0.1	0.01				
n-Propylbenzene	NA	0.01																
Toluene	1.0 (MCL)	0.12										0.04	0.05					
1,2,4-Trimethylbenzene	NA	0.14					0.07	0.10	0.07	0.011	0.01	0.05	0.07		0.001			
1,3,5-Trimethylbenzene	NA	0.04						0.05					0.01					
o-Xylene	10.0* (MCL)	0.13					0.06	0.09	0.06	0.010	0.01	0.06	0.07	0.04				
m,p-Xylene	10.0* (MCL)	0.21										0.03	0.05	0.01				
MTBE	0.10 (BHRA)																	
Total Non-Chlorinated Aromatic VOCs + MTBE	NA	0.86					0.17	0.36	0.18	0.036	0.03	0.34	0.54	0.11	0.001			
Chloroethane	NA	0.54																
Chloroform	0.006** (EPA 10-6)																	
1,2-Dichlorobenzene	0.60 (MCL)	0.01																
1,4-Dichlorobenzene	0.075 (MCL)																	
1,1-Dichloroethane	0.081 (BHRA)	0.34					0.02		0.02	0.009	0.07	0.25	0.21	0.06	0.002			
1,2-Dichloroethane	0.005 (MCL)									0.006								
1,1-Dichloroethene	0.007 (MCL)								0.01									
cis-1,2-Dichloroethene	0.070 (MCL)						0.65	0.80	0.78	0.35	0.78	1.4	1.5	0.68	0.004			0.006
trans-1,2-Dichloroethene	0.10 (MCL)										0.04	0.05	0.07	0.02				
Tetrachloroethene	0.005 (MCL)									0.004								
1,1,1-Trichloroethane	0.20 (MCL)						0.12	0.15	0.15	0.070	0.15	0.21	0.22	0.18				
Trichloroethene	0.005 (MCL)						0.02	0.02	0.02	0.011				0.02				
Vinyl Chloride	0.002 (MCL)										0.11	0.50	0.80					
Total Chlorinated VOCs	NA	0.89					0.81	0.97	0.98	0.450	1.15	2.41	2.8	0.96	0.006			0.006
2-Butanone (MEK)	0.17 (LHA)																	
4-Methyl-2-pentanone (MIBK)	0.35 (BHRA)																	

TABLE 3
Summary of VOC Data (mg/l) for Groundwater Samples
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Location		AE-20			AE-21			AE-22			MW-4			MW-4 DUP (OW-2)	RFW-1		RFW-2	
VOC Dilution Factor		1			1			1			1			1	1		1	
Date of Sample		6/14/95	12/18/95	4/2/96	6/16/95	12/15/95	4/3/96	6/16/95	12/15/95	4/3/96	6/14/95	12/18/95	4/3/96	12/18/95	4/3/96	8/13/96	4/3/96	8/13/96
Compounds	AGQS																	
Benzene	0.005 (MCL)																	
n-Butylbenzene	NA																	
sec-Butylbenzene	NA																	
Ethylbenzene	0.70 (MCL)																	
Isopropylbenzene	NA																	
p-Isopropyltoluene	NA														0.002			
Naphthalene	0.020 (LHA)														0.01			
n-Propylbenzene	NA														0.002			
Toluene	1.0 (MCL)																	
1,2,4-Trimethylbenzene	NA														0.023			
1,3,5-Trimethylbenzene	NA														0.008			
o-Xylene	10.0* (MCL)														0.002			
m,p-Xylene	10.0* (MCL)														0.002			
MTBE	0.10 (BHRA)														0.57		0.12	0.06
Total Non-Chlorinated Aromatic VOCs + MTBE	NA														0.619		0.12	0.06
Chloroethane	NA																	
Chloroform	0.006** (EPA 10-6)																	
1,2-Dichlorobenzene	0.60 (MCL)																	
1,4-Dichlorobenzene	0.075 (MCL)																	
1,1-Dichloroethane	0.081 (BHRA)																	0.002
1,2-Dichloroethane	0.005 (MCL)																	
1,1-Dichloroethene	0.007 (MCL)																	
cis-1,2-Dichloroethene	0.070 (MCL)																	
trans-1,2-Dichloroethene	0.10 (MCL)																	
Tetrachloroethene	0.005 (MCL)																	
1,1,1-Trichloroethane	0.20 (MCL)																	
Trichloroethene	0.005 (MCL)																	
Vinyl Chloride	0.002 (MCL)																	
Total Chlorinated VOCs	NA																	0.002
2-Butanone (MEK)	0.17 (LHA)																	
4-Methyl-2-pentanone (MIBK)	0.35 (BHRA)																	

TABLE 3
Summary of VOC Data (mg/l) for Groundwater Samples
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Location		On-Site Dug Well			HM			HM DUP. (OW-4)	HR			OW-1 (see note 11)		OW-2 (see note 11)		OW-3 (see note 11)
VOC Dilution Factor		1			1			1	1			1		1		1
Date of Sample		12/14/95	4/3/96	8/12/96	12/18/95	4/3/96	8/14/96	8/14/96	12/18/95	4/3/96	8/14/96	6/19/95	12/15/95	6/16/95	4/3/96	8/14/96
Compounds	AGQS															
Benzene	0.005 (MCL)	0.042	0.001	0.014												
n-Butylbenzene	NA															
sec-Butylbenzene	NA															
Ethylbenzene	0.70 (MCL)															
Isopropylbenzene	NA	0.002														
p-Isopropyltoluene	NA															
Naphthalene	0.020 (LHA)	0.008		0.002												
n-Propylbenzene	NA															
Toluene	1.0 (MCL)			0.002												
1,2,4-Trimethylbenzene	NA															
1,3,5-Trimethylbenzene	NA															
o-Xylene	10.0* (MCL)	0.004		0.002												
m,p-Xylene	10.0* (MCL)															
MTBE	0.10 (BHRA)															
Total Non-Chlorinated Aromatic VOCs + MTBE	NA	0.056	0.001	0.020												
Chloroethane	NA	0.05		0.020												
Chloroform	0.006** (EPA 10-6)															
1,2-Dichlorobenzene	0.60 (MCL)	0.002														
1,4-Dichlorobenzene	0.075 (MCL)															
1,1-Dichloroethane	0.081 (BHRA)	0.19	0.037	0.068						0.004	0.003					
1,2-Dichloroethane	0.005 (MCL)	0.005		0.002												
1,1-Dichloroethene	0.007 (MCL)															
cis-1,2-Dichloroethene	0.070 (MCL)	0.40	0.033	0.190		0.002			0.023	0.045	0.004					
trans-1,2-Dichloroethene	0.10 (MCL)	0.02	0.002	0.011												
Tetrachloroethene	0.005 (MCL)								0.015	0.006	0.004					
1,1,1-Trichloroethane	0.20 (MCL)	0.05	0.005	0.033					0.007	0.017	0.006					
Trichloroethene	0.005 (MCL)								0.006	0.008						
Vinyl Chloride	0.002 (MCL)	0.14														
Total Chlorinated VOCs	NA	0.857	0.077	0.324		0.002			0.051	0.08	0.017					
2-Butanone (MEK)	0.17 (LHA)															
4-Methyl-2-pentanone (MIBK)	0.35 (BHRA)															

TABLE 3
Summary of VOC Data (mg/l) for Groundwater Samples
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Notes:

1. Samples were collected by SHA on the dates indicated. Monitoring wells with measurable levels of floating product (>0.01 ft) were not sampled in monitoring rounds subsequent to June 1995. Monitoring wells historically exhibiting no VOCs and considered upgradient of known or suspected source areas were not sampled in August 1996. Results of analyses completed on samples collected in the August 1996 round are shaded.
2. Analyses for VOCs were completed by Eastern Analytical, Inc. (EAI) of Concord, New Hampshire, using EPA Method 8260.
3. Concentrations are presented in milligrams per liter (mg/l) which are equivalent to parts per million (ppm).
4. A blank indicates the compound was not detected. Only those VOCs detected in one or more groundwater samples are listed.
5. Standard detection limits for VOCs are 0.001 to 0.05 mg/l, depending on the compound. Detection limits are elevated by a factor proportional to the dilution factor in samples with elevated VOC concentrations. Refer to the analytical laboratory data reports for specific detection limits.
6. Methyl tertiary butyl ether (MTBE) is included with the total concentration of non-chlorinated aromatic VOCs.
7. Ambient Groundwater Quality Standards (AGQS) are from New Hampshire Code of Administrative Rules Env-Ws 410 (2/11/93). The sources of the AGQSs include:
 - Maximum Contaminant Level (MCL) established by the United States Environmental Protection Agency (USEPA);
 - Lifetime Health Advisory (LHA) established by the USEPA;
 - Health Advisory Level established by the New Hampshire Department of Health and Human Services, Division of Public Health Services, Bureau of Health Risk Assessment (BHRA);
 - USEPA 10⁻⁶ carcinogenic risk level (EPA 10⁻⁶); and
 - "NA" indicates no AGQS established by NHDES
8. "*" indicates AGQS is for total xylenes (o, m, and p).
9. "***" indicates AGQS is for total trihalomethanes (THMs).
10. VOC concentrations in groundwater which equal or exceed the AGQSs are in ***bold italics***.
11. "HM" - Howard Manor overburden well.
 "HR" - Howard Residence overburden well.
 "OW-1" - Trip blanks provided by EAI in June and December 1995.
 "OW-2" - Equipment blank analyzed in June 1995, and trip blank provided by EAI in April 1996.
 "OW-3" - Trip blank provided by EAI in August 1996.

TABLE 4
Summary of VOC Data (ppm) for Surface Water and Sediment Samples
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Location	SW-1				SW-1 DUP (OW-2)	SS-1	SW-2			SS-2
VOC Dilution Factor	1				1	1	1			1
Date of Sample	6/20/95	12/19/95	4/2/96	8/14/96	8/14/96	6/20/95	6/20/95	12/19/95	4/2/96	6/20/95
Benzene								0.002	0.002	
sec-Butylbenzene							0.002			0.02
Ethylbenzene								0.009		
Isopropylbenzene								0.002		
p-Isopropyltoluene								0.002		
Naphthalene							0.001	0.009	0.002	
n-Propylbenzene							0.001	0.003		
Toluene							0.005	0.004	0.003	0.01
1,2,4-Trimethylbenzene								0.018	0.003	
1,3,5-Trimethylbenzene								0.012		
o-Xylene								0.011	0.004	
m,p-Xylene								0.012	0.004	
MTBE										
Total Non-Chlorinated Aromatic VOCs + MTBE							0.009	0.084	0.018	0.03
Chlorobenzene										
1,2-Dichlorobenzene								0.005		
1,4-Dichlorobenzene								0.002		
1,1-Dichloroethane								0.006		
1,2-Dichloroethane										
cis-1,2-Dichloroethene										
Total Chlorinated VOCs								0.013		
C ₁₁ -C ₁₆ VPHCs	NA	NA	NA	NA	NA	ND	NA	NA	NA	5
2-Butanone (MEK)							0.02			

TABLE 4
Summary of VOC Data (ppm) for Surface Water and Sediment Samples
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Location	SW-3	SW-4				SS-4	SW-5			
VOC Dilution Factor	1	1				1	1			
Date of Sample	8/14/96	6/20/95	12/19/95	4/2/96	8/14/96	6/20/95	6/20/95	12/19/95	4/2/96	8/14/96
Benzene		0.008		0.002	0.003					
sec-Butylbenzene						0.01				
Ethylbenzene		0.010		0.001		0.03				
Isopropylbenzene		0.001				0.01				
p-Isopropyltoluene										
Naphthalene		0.003		0.001		0.04				
n-Propylbenzene		0.002				0.02				
Toluene		0.001		0.004						
1,2,4-Trimethylbenzene		0.004		0.001						
1,3,5-Trimethylbenzene										
o-Xylene		0.005		0.002	0.001					
m,p-Xylene		0.004		0.002						
MTBE	0.05									0.03
Total Non-Chlorinated Aromatic VOCs + MTBE	0.05	0.038		0.013	0.004	0.11				0.03
Chlorobenzene		0.060								
1,2-Dichlorobenzene		0.002								
1,4-Dichlorobenzene										
1,1-Dichloroethane		0.007		0.004	0.018					
1,2-Dichloroethane						0.02				
cis-1,2-Dichloroethene				0.009	0.004					
Total Chlorinated VOCs		0.069		0.013	0.022	0.02				
C ₁₁ -C ₁₆ VPHCs	NA	NA	NA	NA	NA	2	NA	NA	NA	NA
2-Butanone (MEK)										

TABLE 4
Summary of VOC Data (ppm) for Surface Water and Sediment Samples
Beede Waste Oil / Cash Energy Site
Plaistow, New Hampshire

Location	SS-5	SW-6	SS-6	SW-7			SW-8				SS-8
VOC Dilution Factor	1	1	1	1			1				1
Date of Sample	6/20/95	6/21/95	6/21/95	12/18/95	4/2/96	8/14/96	6/21/95	12/18/95	4/3/96	8/14/96	6/21/95
Benzene											
sec-Butylbenzene											
Ethylbenzene											
Isopropylbenzene											
p-Isopropyltoluene											
Naphthalene											
n-Propylbenzene											
Toluene											
1,2,4-Trimethylbenzene											
1,3,5-Trimethylbenzene											
o-Xylene											
m,p-Xylene											
MTBE											
Total Non-Chlorinated Aromatic VOCs + MTBE											
Chlorobenzene											
1,2-Dichlorobenzene											
1,4-Dichlorobenzene											
1,1-Dichloroethane						0.002	0.002			0.003	
1,2-Dichloroethane											
cis-1,2-Dichloroethene					0.006	0.004	0.008	0.003		0.009	
Total Chlorinated VOCs					0.006	0.006	0.010	0.003		0.012	
C ₁₁ -C ₁₆ VPHCs	ND	NA	ND	NA	NA	NA	NA	NA	NA	NA	ND
2-Butanone (MEK)											

Notes:

1. Samples were collected by SHA on the dates indicated. Results of samples collected in the August 1996 round are shaded.
2. Surface water location SW-3 was sampled in August 1996 since no surface water was observed at location SW-2.
3. Analyses were completed by Eastern Analytical, Inc. (EAI) of Concord, New Hampshire using EPA Method 8260.
4. Concentrations are presented in milligrams per liter (mg/l) for surface water (SW-series) samples, and milligrams per kilogram (mg/kg) for sediment (SS-series) samples, both of which are equivalent to parts per million (ppm).
5. A blank indicates the compound was not detected. Only those VOCs detected in one or more samples are listed.
6. Refer to the analytical laboratory data reports for specific detection limits.
7. "NA" indicates not analyzed for specified parameter.

FIGURE

Figure 1 Exploration Location Plan

**The on-line Figure for this report is
provided as a separate Adobe Acrobat® file.**

APPENDICES

**Appendix A Groundwater and Surface Water Quality Field
Sampling Summaries**

Appendix B Analytical Laboratory Data Reports

**Appendices are not included in this on-line version.
Please contact the USEPA Region 1 Superfund Records Center for further
information about this material.**